



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 10—CHART INFORMATION

SECTOR 10

EAST COAST OF MADAGASCAR—TANJON'I BOBAOMBY TO TANJON'I VOHIMENA

Plan.—This sector describes the E coast of Madagascar from Tanjon'i Bobaomby (Cap d'Ambre) to Tanjon'i Vohimena (Cap Sainte Marie), a distance of 939 miles. The sector is described from N to S.

General Remarks

10.1 The E coast of Madagascar consists principally of dunes, lagoons, and plains from 10 to 50 miles wide. The ground rises from the plains by successive ranges of hills to a high interior plateau. This elevated region, the edge of which is formed on all sides by cliffs as high as 152m, is broken in all directions by mountains that, from some directions, show varied and picturesque outlines. The well-watered E slope of the island is marked by many waterfalls.

The E coast of Madagascar is, with good reason, noted for its inhospitable shore. During the SE trade wind, from April to October, it is subject to almost increasing strong winds and a heavy swell breaking on the coast. In summer, rain squalls obscure the land, making it hard to identify the landmarks; moreover, this is the season for cyclones, to which this coast is exposed.

There is not a single good harbor to be found on this coast. Canal de Sainte-Marie, between Ile Sainte-Marie and the coast, is the best harbor for large vessels, and Baie de Sainte-Luce, nearly 500 miles SSW of Ile Sainte-Marie, is the best for small vessels. Tamatave, 70 miles SSW of Ile Saint-Marie, is the most important commercial harbor.

Tides—Curr ents.—Currents can be strong and variable in direction. A vessel making a landfall on the E coast of Madagascar is advised to do so with the sun astern.

The lights on this coast are unreliable and a night approach is not recommended.

Observations made of the tidal currents in a position a little W of Tanjon'i Bobaomby during a period of 6 days during March show that the tidal currents set generally NE and have maximum rate 1 hour after HW. The maximum current that has been observed is 2.25 knots. The current sets S for an hour at the time of LW, its strength was observed to be about 0.5 knot of the NE current. The turn of the current is almost instantaneous; no period of SW was observed.

A N current was reported off Tanjon'I Bobaomby, on one occasion running at 3 knots, but was reported to ease to 2 knots off Helodranon Antongila.

The current off Baie de Rigny sets NW with great strength during the greater part of the year, but during the Northeast Monsoon, a current of 0.5 knot has been observed, at times, setting SSE.

The general N current during the Southeast Monsoon season is deflected by the Iles Leven to the NE; an eddy or counter-current sets S or SW past the W side of this deflected current. This S or SW countercurrent is potentially dangerous to S-bound vessels, particularly at night. The demarcation between these currents is uncertain and caution of more than ordinary

intensity must be observed in approaching and passing Barracouta Island.

The current is strong off Tanjon Antsirakosy, especially during the Southeast Monsoon. After approaching the coast from the S or SE it veers, near the projecting land, to the N or NE; a counter-current setting generally S develops along the coast to the N and NNW of the cape. The line of demarcation between the N or NE current and the counter-current is not known with certainty. This interplay of currents is similar to that in the vicinity of Iles Leven.

The strong in-draft of the current into Helodranon Antongila must be allowed for in approaching or passing the bay. It is not uncommon for vessels intending to make Canal de Sainte-Marie to find themselves off Tanjona Belao. The current sets rapidly around Tanjona Belao and Cap Antsirikira in Helodranon' Antongila during the Southeast Monsoon; during this season, the capes should be given a wide berth, especially when leaving Helodranon' Antongila at night. A surface current, generally of some strength, enters Helodranon' Antongila continuously during the Southeast Monsoon. The ebb current during spring tides has been observed to attain a rate of over 1 knot.

In Canal de Saint-Marie the currents are generally variable, but off Lohatanjon' Antsiraka they are very strong. As a rule the currents take the direction of the wind and the N current is usually the strongest current.

The current sets SSW along the coast between Tamatave and Mahanoro at an average rate of 1.25 knots.

A vessel found a N current, with a rate in excess of 1 knot, between Baie de Faradofay and Tanjon'i Vohimena.

Vessels near the land in the vicinity of Tanjon'i Vohimena have found a decided set toward the coast sometimes with a rate of 1 knot.

Tanjon' Bobaomby to Helodranon' Antsiranana (Baie de Diego-Suarez)

10.2 Tanjon'i Bobaomby (Cap d'Ambre) (11° 57'S., 49° 17'E.) consists of three, low, rocky points; the middle point, which is visible up to 20 miles, is the termination of a large, regular plain of moderate height and has a barren, parched appearance. To an observer approaching from the NE, the most conspicuous of the hills S of the cape is Boboala at 2.7 miles. All the hills in the vicinity have barren slopes, but the summits are grass-covered. An obstruction, a partially sunken drilling rig, is situated about 18 miles N of Tanjon'i Bobaomby.

Caution.—To round Tanjon'i Bobaomby from the W to E requires care from April to November. The ocean current, in conjunction with the tidal current, attains a rate of 3 to 4 knots; at half flood it has reached 6 knots in one place. The Southeast Monsoon often blows with great strength, raising a short, choppy, and very rough sea; both current and sea are much reduced the nearer the cape is approached. A vessel frequently

made the passage, without difficulty during the worst season, by passing 0.2 to 0.3 mile off the rocky islets.

To round the cape a vessel should be in its vicinity at daybreak, hug the shore of the islets as described, and avoid being set into the strength of the current and sea, where she would lose ground.

Low-powered streamers, if attempting to round the cape with the wind and current against them, should do so during the first 2 hours after HW, close to the land, and at night.

When passing from E to W, the breeze falls as soon as the vessel has passed the cape; although squalls and swell may follow for a few miles, they are soon succeeded by calms or baffling winds. Tanjon'I Bobaomby is marked by a light, but it should be noted that it is not on the farthest point N.

Ambohibiri (12° 05'S., 49° 18'E.) rises about 2.5 miles inland, 7.5 miles SSE of the light on Tanjon'I Bobaomby; it is possibly the only distinguishable feature along this section of the coast.

Andramahimba (Andramaimbo) (12° 13'S., 49° 10'E.), 392m high, rises on a level ridge on the neck of land separating Helodranon' Antsiranana from Helodranon' Amponkarana (Baie Amponkarana). This conspicuous conical hill has a flagstaff on its summit; the hill is visible at a distance of several miles from either side of the island.

Ankaramisampana (12° 12'S., 49° 12'E.), a conspicuous hill, rises on the same ridge as Andramahimba, in a position about 2 miles E of the latter hill; it is sometimes known as Dover Castle.

Ambohitra (Montagne d'Ambre) (12° 36'S., 49° 09'E.) rises to a height of 1,475m is the highest and most conspicuous landmark near the N extremity of Madagascar and is visible from positions off both the E and W coasts of the island. The peak rises regularly from near the S end of a range about 10 miles long; its sides are covered with thick forests. In weather, even moderately clear, it can be seen long before the intervening land.

Morne Noir (13° 26'S., 49° 58'E.), a conical hill, is conspicuous even when seen against higher land in the background. The hill is bare and rocky, and its blackness contrasts markedly with its surroundings of yellow or green according to season.

Mont de la Table (14° 41'S., 50° 09'E.) is massive, perfectly circular, and may be seen for a distance seaward of 40 miles; it appears to be on the coast, though really it is 3 miles inland, the intervening land being low. Sommet de la Fausse Table, 18 miles N of Mont de la Table, is a hill of less regular shape and may be mistaken for Mont de la Table; in clear weather, both will be seen at the same time, but the mistake is easy to make in poor visibility. A bare conical hill rises 2 miles SSE of Mont de la Table.

Pitons d'Angontsy (15° 16'S., 50° 18'E.), rising 10 miles inland W of Tanjon' Antsirakosy, consists of three summits like the teeth of a saw, and a fourth summit separated from the others by a U-shaped gap; from the NE, the mountain appears to have only two summits.

Helodranon' Antsiranana (Baie de Diego-Suarez)

10.3 Helodranon' Antsiranana (Baie de Diego Suarez) (12° 16'S., 49° 18'E.) is entered through Passe d'Orangea

between **Cap Tanifosty** (12° 13'S., 49° 22'E.) and Cap Mine (Cap Andranomody), 1 mile SSW, about 17.5 miles SSE of Tanjon'I Bobaomby. This bay is indented by Baie du Tonnerre and Baie des Cailloux Bancs (Baie des Andovobatofotsy) on the N side, and by Baie des Francais (Baie Andovobazaha) and Port de la Nievre on the S side.

Nosy Diego (Ile Diego) (12° 11'S., 49° 24'E.) lies on the E side of the shore reef, it is the farthest E of the dangers in the N approach to Passe d'Orangea. The 10m curve lies 0.2 mile E of the S extremity of Nosy Diego.

Le Grand Banc (12° 18'S., 49° 27'E.), with depths less than 10m, extends NNE for a distance of about 5 miles from a position on the coast 7 miles SSE of Cap Mine.

Banc de l'Yvonne, a coral head with a depth of 15m, lies close S of the approach to Passe d'Orangea, 2 miles ESE of Cap Mine. Banc du Nord-Est, with a least depth of 11m, lies 1.7 miles SE of Banc de l'Yvonne.

There are several islets lying on the coastal reef within the above banks; their positions may best be seen on the area chart.

Nosy Volana (12° 13'S., 49° 22'E.), in the entrance of Passe d'Orangea, is wedge-shaped and slopes from a height of 28m near its N end; a chimney in ruins is situated near the summit. A coral reef, partly uncovered, connects the island with Cap Tanifosty, about 0.2 mile N. A bank, with depths less than 2.9m, extends 0.2 mile S from Nosy Volana, reducing the navigable width of the fairway to about 0.4 mile.

10.4 Nosy Langoro (12° 13'S., 49° 19'E.), marked by a light is fringed by a coral reef. A rocky shoal, with a depth of 4.6m, lies 0.2 mile SSE of the island.

Tides—Curr ents.—The tidal currents in Passe d'Orangea attain velocities of 1 to 2.5 knots. Inside the entrance the flood current makes for 30 minutes before LW, until about 30 minutes after HW at Port de la Nievre.

Depths—Limitations.—The least charted depth on the entrance range through Passe d'Orangea is 19m, located about 0.8 mile WNW of the light situated on Cap Mine. Depths of 14 and 17m are charted in positions 0.2 mile NNW and NW, respectively, from the above light. The general depths in Helodranon' Antsiranana are from 20 to 53m.

Aspect.—Ambohitra (Montagne d'Ambre) (12° 36'S., 49° 09'E.) rises to a height of 1,475m SSW of Cap Mine; this excellent landmark is frequently obscured by clouds.

Mont Andramahimba, 392m high, W of Cap Mine; it is sometimes known as Windsor Castle.

Ankaramisampana, 293m high, and Bobaomby, 267m high, rise 2 and 3 miles ENE, respectively, from Mont Andramahimba. A boulder on the side of a hill in a position about 1.2 miles N of Bobaomby is conspicuous. The three named hills are useful marks in the approach to Helodranon' Antsiranana.

Pointe du Corail is SW of Cap Mine; a hospital, a large yellow building with a red roof, stands on the point. The Residency, a large gray house with a flat roof, stands about 0.3 mile W of the hospital.

A bare promontory, with overhanging cliffs, is located 1 mile NW of Pointe du Corail. The promontory has three summits; the one farthest W is 68m high. A hospital and a military establishment are situated on its SE part.

The NW side of Port de la Nievre is formed by steep hills, but on the SE side the hills slope more gently to the shore. Baie des Amis, on the SE side 1 mile within the entrance, lies at the foot of this slope. A group of oil tanks stand on the hills 0.5 mile S of Baie des Amis, and a number of towers, some marked by lights, stand W of the tanks.

Pilotage.—The pilot station covers the whole of Helodranon' Antsiranana, except Port Militaire, and the approach to the bay within a radius of 2 miles of Cap Mine; it is divided into an optional pilotage area seaward of a line joining Pointe de l'Aigle, 0.4 mile SW of Cap Mine, and Cap Vatomaity, 3 miles WNW, and a compulsory area for vessels of more than 150 nrt, within the line. Although not part of the pilot station, pilotage is also compulsory in Port Militaire. Berthing and sailing are permitted throughout 24 hours.

If optional pilotage is required, the pilot embarks at the entrance to Passe d'Orangea; otherwise at the seaward limit of the compulsory area. If the pilot is unable to board, a frequent occurrence from April to November during the SE trade winds, he will lead a vessel through the optional area into the harbor and embark on the entrance range line in sheltered water.

Requests for pilots should reach the Port Office at Antsiranana (VHF channel 16) before 1630 hours if required on the following morning; a pilot required in the afternoon should be requested on the previous morning.

In 1980, the pilot vessel was out of action and the pilot embarked in the bay from a small launch which was not equipped with radio; messages were passed via Durban radio. In 1985, the harbormasters office was not equipped with radiotelephone.

Port de la Nievre (12° 16'S., 49° 16'E.)

World Port Index No. 47630

10.5 Port de la Nievre is situated on the SW side of Helodranon Antsiranana and is entered between Pointe du Corail and Cap Ampanolohamiraty, 1 mile WNW. The port comprises Port de Commerce in the N part and Port Militaire farther SW. The city of Antsiranana is situated on a peninsula E of this commodious harbor.

Winds—Weather.—The harbor is subject to very strong winds from May to October.

Tides—Currents.—The tidal currents in Port de la Nievre attain a velocity of 1 knot.

Off the N end of Quai du Commerce, 0.6 mile SE of Cap Ampanolohamiraty, the current sets W during the rising tide and E during the falling tide; in the rainy season this current can attain a rate of 3 knots and its meeting with the eddy running along the quay, N during the rising tide and S during the falling tide, combine to make it difficult for vessels to berth alongside. After a heavy rain, the outgoing current can persist during the whole of the rising tide.

Depths—Limitations.—The channel leading to the dry dock in Baie des Amis, about 1 mile S of Cap Ampanolohamiraty, has a least depth of 7.4m and is marked on its E side by a buoy reported missing in (1993). A depth of 4m is charted 0.2 mile NW of the drydock.

Quai du Commerce, at the NE extremity of the harbor, is a concrete quay and can accommodate vessels drawing less than

8.5m; its S end is shoal. Tankers discharge at this quay which can also accommodate container and ro-ro vessels. The ebb current can run strongly round the N end of the quay and then it is better to berth after the flood current makes. During the SE trade wind, large vessels are recommended to proceed alongside the quay in the calm periods at daybreak or nightfall.

Pilotage.—Pilotage is compulsory for vessels of more than 150 nrt; refer to Passe d'Orangea.

Signals.—Storm signals are shown from a tall flagstaff close W of the light tower at Cap Mine, and from the signal station at the N end Quai du Commerce.

Anchorage.—There are good anchorages throughout Helodranon' Antsiranana; vessels entering the roadstead without the aid of a pilot can anchor in 20 to 23m, about 0.8 mile N of the parallel of Cap Ampanolohamiraty. There is a very good anchorage in Anse Farafakabe, a cove in the NE part of Baie des Cailloux Blancs, in depths from 9 to 18m, mud.

The pilot should be consulted for other anchorages.

Anchorage is prohibited in parts of Baie des Francais and Port de la Nievre; their limits may be seen on the chart.

Directions.—The approaches to Helodranon' Antsiranana are not difficult in clear weather, which is generally the case in the SE trade wind from April to October, but there is a heavy SE swell at this season. From November to April, when rain squalls obscure the land, it is important to identify the landmarks before standing W. It must be remembered that there is a N current which may exceed a rate of 3 knots. As the entrance is neared, Cap Mine is more easily identified than the light tower situated about 0.5 mile ESE. The best mark for the transit of Passe d'Orangea is Nosy Langoro, bearing 275°, and seen between Monts Ankaramisampana and Andramahimba, which leads nearly midway through the fairway. This approach must be strictly adhered to, but in bad weather it is best to keep Nosy Langoro in line with Mont Andramahimba, bearing 274°.

When through the pass, a vessel will be in smooth water and should keep on the same range line until within 1 mile of Nosy Langoro, when a course of 230° should be steered for Port de la Nievre, with the beacons situated 0.7 mile NW of Cap Tanifosty, in line, astern, bearing 050°.

Cap Mine to Iles Leven

10.6 From Cap Mine the coast of Madagascar trends in a SSE direction to Iles Leven. Le Grand Banc lies up to 3.7 miles offshore; it is the farthest offshore danger charted along this coast until in the vicinity of Iles Leven.

Baie d'Ambodivahibe is entered W of Pointe Cornard (12° 22'S., 49° 27'E.). Baie d'Ambodivahibe is very deep; it is difficult for ocean-going vessels to find a suitable anchorage. Baie d'Ambodivahibe is frequented by coastal vessels, which run up on the beach at the head of the bay. Antsapahano, a small pointed hill, 187m high, which lies about 3 miles SSW of the head of the bay, bearing 204°, and seen midway between Andraombe and Ankarakatova, two summits farther in, leads through the entrance and into the bay.

Pointe Ambodivahibe (12° 21'S., 49° 31'E.) lies about 3 miles E of Pointe Cornard; Banc d'Antala fronts this part of the coast. Banc du Necessaire is a SE continuation of Banc d'Antala; the 9m curve line lies up to 1.7 miles offshore off the NE extremity of Nosy Tendro.

Baie de Rigny (12° 26'S., 49° 31'E.) is entered between the S end of Nosy Tendro (Nosy Antendro) and Pointe Sanson, about 0.4 mile S. A mark for the entrance of Baie de Rigny is La Bosse, a large white sandhill rising about 1.8 miles S of Pointe Sanson. Nosy Laliara, about 0.5 mile SE of Pointe Sanson, is also of use. Ile aux Huitres lies in a position about 0.8 mile WNW of Pointe Sanson; a white wooden beacon stands on the S extremity.

Anchorage can be taken in mid-channel just NW of Pointe Mancel, about 1.5 miles WSW of Pointe Sanson, in 11 to 14m.

The white wooden beacon at the S extremity of Ile aux Huitres, in line bearing 268° with Mont Corre (Ankarakatova), leads into Baie de Rigny. It is better to keep to the N side of this entrance range as shoal water extends about 0.2 mile N from Pointe Sanson.

When a position in the bay is reached from which Nosy Ambatomkena bears 210° and the beacon is about 0.5 mile W, a mid-channel course should be shaped and round Pointe Mancel at a distance of 0.1 mile, and then proceed to the anchorage.

The coast between Baie de Rigny and Helodranon'I Lokia (12° 44'S., 49° 41'E.) is little known; its indentations are shallow and unsuitable for navigation. Nosy Lowry, about midway between these two inlets, is 26m high; it lies about 0.8 mile offshore. Helodranon'I Lokia (Baie de Loky) is entered between the S extremity of Nosy Ankomba (12° 42'S., 49° 40'E.) and Pointe Ambodilamoty.

The depths in the navigable channel, which is about 0.3 mile wide, vary from 10.9m irregularly to about 73m, but over several shoal heads, the depths are only 3.3 to 8.2m.

Anchorage can be taken in 9 to 14m, over a bottom of sand and mud, in positions about 2.5 miles within the bay. Such positions are well-sheltered from all winds. Farther in the bay there is a broad inner expanse of shallow water, and a relatively small area, with depths of 7.3 to 10.9m, where protection is had from the N swell. This small deeper area is partly separated from the outer anchorage by a sandbank projecting from Pointe de Sable, which lies on the E shore of the bay in a position about 3.5 miles within the entrance; the narrow opening off the W end of the sandbank leading into the small deep area has depths of 12.8 to 20.1m. Baie de Mangerivy or Port Leven lies between Nosy Manambiby (12° 46'S., 49° 46'E.), an island on the coastal reef about 3.5 miles SE of Pointe Ambodilamoty, and Cap du Diable, 8.7 miles SSE. It is protected from the NE and E by a reef located from 1 to 8 miles N of Cap du Diable, but is exposed to N winds. The Iles Leven lie on the above reef; Nosy Barracouta (12° 48'S., 49° 52'E.), the farthest E of the islets, is not easily recognized.

Port de Mangerivy is essentially a channel, about 8 miles long trending S and SE between Nosy Manambidy, Pointe de l'Artemise, Ilot Moury, Ilot Guy, Ilot aux Oiseaux, Ilots du Sud, and Pointe Owen on the W side, and, on the E side, Ilot du Nord, Nosy Akao, Ilot du Milieu, Nosy Satrana, and Nosy Vahala. The entrance to the port from the N is about 0.6 mile wide between the 10m curves, but there are several patches, the shallowest of which has a depth of 8.2m in mid-channel. The entrance from the SE is restricted by shoals. A vessel should not be taken into the port by way of this entrance except in case of necessity, and then only after the fairway has been marked by buoys.

Anchorage.—Anchorage should be taken W of Pointe de l'Observatoire in depths from 11 to 14m, sand. A vessel 65m in length, drawing 4.9m, has anchored 0.5 mile NW of Pointe du Sable, the W extremity of Nosy Ankao, and with the W extremity of Nosy Satrana bearing 150°.

Caution.—Caution is required on entering as the islands are sometimes difficult to identify, the currents are strong, and the shoals extend well to the N. Vessels generally approach from the N and steer in toward the anchorage when Ilot Guy bears 204°, local knowledge is necessary.

Iles Leven (12° 48'S., 49° 51'E.) lie up to 5 miles offshore and are low, and brush covered; they all have beaches of white sand. Nosy Manambiby (12° 46'S., 49° 46'E.), the farthest N of the group, is over 1 mile long N and S and is nearly as wide. Pointe Leven, the N extremity of the island, lies about 1.6 miles NE of Pointe Antseranambe.

The island is low, dark, and partly wooded; it is the most easily distinguished of Iles Leven. Shoal banks, which have depths of 5.5m or less, extend 1 mile E and SE from the E side of Nosy Manambiby.

Nosy Ankao, 29m high, is the largest island in the group. A bank, with depths less than 5.5m, extends 0.5 mile W from the W extremity of the island and forms the E side of the anchorage area in Port de Mangerivy. The island is marked by a light.

Ilot du Nord lies about 1.3 miles NNE of Pointe de l'Observatoire, the N extremity of Nosy Ankao. This tiny white islet lies near the N edge of a bank of coral fronting the N, NE, and E shores of Nosy Ankao; the islet is prominent.

Nosy Barracouta is the largest of several islets lying E of Nosy Ankao. A shoal, with a depth of 5m, lies about 1.5 miles E of the islet.

Ilot Rata lies about midway between the S ends of Nosy Akao and Nosy Barracouta.

Ilot du Milieu, Nosy Satrana, and Ilot Manampahana are reef-fringed islands lying S and SSE of the S extremity of Nosy Akao on the E side of Port de Mangerivy. They are possibly on the same bank as Nosy Akao and Nosy Barracouta.

Ilot du Milieu lies about 0.9 mile SSW of the S extremity of Nosy Akao.

Nosy Satrana, an island 22m high in a summit near its center, lies with its N extremity about 0.9 mile S of the extremity of Nosy Akao.

Nosy Vahala (12° 52'S., 49° 51'E.), the farthest S of Iles Leven, lies NNW of Cap du Diable, near the edge of the shore bank.

Iles Leven to Sambava

10.7 From Cap du Diable the coast trends in a SSE direction to Iharana. There are no dangers charted offshore along this part of the coast.

Helodranon' Andravina (Baie d'Andravina) is entered between Cap du Diable and Lohatanjon' Andronona (12° 56'S., 49° 52'E.). Lohatanjon' Andronona (Cap Berry) is the N termination of level reddish ground of moderate elevation.

The depths in Helodranon' Andravina range from 5.5 to 20.1m, however, reefs extend as far as 0.5 mile off the N and W shores and in one place off the S shore the reef extends 0.4

mile. An islet lies near the center of the bay and reefs extend about 0.2 mile SE and 0.4 mile SW from the islet.

Helodranon' Andravina is open to the N and NE, but shelter from E winds is possible in its SE part, with Lahatanjon' Andronona bearing 053°, distant 0.5 mile, in a depth of 7.3m.

Between Lohatanjon' Andronona and Helodranon'Iharana there is little known about the coast and it does not possess any sheltered anchorage.

Close off **Tanjona** (Cap Tanjona) (13° 03'S., 49° 55'E.) foul ground extends up to 1.3 miles offshore. Some islets lie close off the point and Nosy Trois Freres (Iles des Trois Freres) lie 1.7 miles S of the point. All of these islets are so close inshore that none of them can be distinguished from a distance.

Tanjona Manambato (Cap Manambato) (13° 13'S., 49° 56'E.) is a massive, dark, triangular rock that stands out clearly against the high land in the background. Its triangularity and contrast with the background are particularly marked when seen from E; it is an excellent mark for vessels approaching Helodranon' Iharana from the N.

The Manambato River flows into the sea N of Tanjona Manambato; the muddy waters of the river discolor the sea to an appreciable distance from the outlet, and create an appearance of a reef; the extremity of Tanjona Manambato is steep-to. Antsivaregna, a hill, rises close NW of the outlet of the Manambato River; it is a useful mark to vessels approaching from the N or NE, but when seen from the S the hill is obscured by the mass of Tanjona Manambato.

Nosy Be (Ile Verte) (13° 17'S., 50° 00'E.) lies on the edge of the shoal bank in the N approach to Helodranon' Iharana; it is 30m high. Ilots Noir lie close within the coastal reef, 1.5 miles S of Nosy Be; these islets and Nosy Be are useful for marking the coastal reef for a vessel approaching Iharana from the N.

10.8 Iharana (Vohemar) (13° 21'S., 50° 00'E.) ([World Port Index No. 47620](#)) is a small port situated in Helodranon' Iharana (Baie de Vohemar), an inlet in the coastal reef; it is shallow, but affords good shelter to small vessels with local knowledge. Southeast winds prevail from April to November. From January to the end of March the winds vary from N and W; this is the season of great storms and heat.

Currents in the channel attain a velocity 1.5 knots at springs. The entrance channel is about 0.1 mile wide and during strong SE winds it is difficult to distinguish as the sea breaks across it.

There is room in the port for one vessel up to 100m in length; verify before entering. There are depths of 9.1 to 33m in the channel and a depth of 15m in the anchorage.

Directions.—A vessel approaching from the NE should, when 5 to 6 miles from the Ilots Noir, see Vohemar Point between two high tablelands. The S tableland is the smaller.

Morne Noir (13° 29'S., 50° 01'E.) is a useful mark to vessels approaching from the S.

The best time to enter Baie de Vohemar is at LW, when more of the dangers are visible; moreover, no current then sets across the reef mass on the NW side of the entrance channel.

It is advisable to maintain a speed sufficient to work against any N cross entrance current, if met with, until past the wrecks on the outer NW side of the entrance channel.

A course with Beacon No. 3 in line bearing 260° with Beacon No. 5 should be followed from seaward to the entrance channel, and then to a position with Beacon No. 4 abeam and

about 50m distant. Course should then be altered to the SW and the vessel kept in mid-channel.

10.9 Between **Lohatanjona Iharana** (Pointe de Vohemar) (13° 21'S., 50° 00'E.) and Sambava the coast has some slight indentations.

The general aspect of the coast between Lohatanjona Iharana and the parallel of 14° S is the same as farther N. In the background are mountain ranges gradually diminishing in elevation the closer the coast is approached; these mountains and hills are mostly bare and of reddish aspect. The open plains are yellow and dried up during the SE trade wind, but are green during the rainy season and have a scanty growth of shrubs and trees in the ravines and sheltered places where it is not rocky.

From S of the parallel 14° S, to Tanjon Antsirakosy there is an unbroken sandy beach which fronts a thickly-wooded country.

Anse de Bonne Tenue lies on the N side of Tanjon' Anorontany (Cap Anorontany) (13° 38'S., 50° 07'E.). A small sugarloaf-shaped hill on its W side is a mark for the cove. It is reported that the cove is a good anchorage.

Morne de Mahanara (13° 55'S., 50° 07'E.), a low isolated hill, is conspicuous because of its shape and dark color. From the NE it has the appearance of a truncated cone, while from the SE it appears wedge-shaped. This hill is a good mark for a vessel approaching Sambava from the N. A little S and behind Morne de Mahanara there is a distinctive gap which must not be confused with that just W of Piton de Sambirano (14° 05'S., 50° 02'E.).

10.10 Sambava (14° 15'S., 50° 12'E.) ([World Port Index No. 47610](#)) is an open roadstead off the entrance of a river. A lagoon forms at the mouth of the river and the village, Sambava, is situated on a promontory on the E side of the lagoon. A shoal, with a least depth of 4.9m, lies in the middle of the roadstead, 0.7 mile NE of the mouth of the river. A depth of 4.6m lies just over 1 mile ESE of the rivers mouth. A bank, with a depth of 7.9m, extends SE from this shoal to another, with a depth of 4.9m, 0.5 mile S.

Anchorage.—Anchorage can be taken in a depth of 14m, muddy sand; the holding ground is poor. An approach at night is not recommended.

Directions.—Vessel approaching from the S should stay well off the coast until Sambirano Peak (14° 02'S., 50° 01'E.) bears 275°. Vessels approaching from the N should proceed to the recommended anchorage position by steering for Beacon D, bearing 196°.

Sambava to Helodranon' Antongila (Baie d'Antongil)

10.11 From Sambava the coast trends S to Antataha, little is known of this coast. From Antataha the coast trends SSE to Tanjona Tsihananina (Cap Tsihananina). From Tanjona Tsihananina the coast continues in a SSE direction to Tanjon Antsirakosy (Cap Est).

A reef extends 1.5 miles from the coast for a distance of 5 miles SSE of Sambava. A coral shoal, with a depth of 10m, lies 13 miles S of Sambava and extends 3.5 miles seaward.

Mont de la Table is massive, perfectly circular, and may be seen from a distance seaward of 40 miles; it appears to be on the coast, though it really sets 3 miles inland. Sommet de la Faussea hill of less regular shape, may be mistaken for Mont de la Table; in clear weather, both will be seen at the same time, but the mistake is easy to make in poor visibility.

Antataha (Antalaha) (14° 54'S., 50° 17'E.) ([World Port Index No. 47600](#)) is an open roadstead suitable only for anchorage during fair weather.

The best anchorage is in about 18m, sand, 0.8 mile off the town, at the intersection of the alignments of the range lights and the beacons bearing 276° and 207°, respectively. This anchorage is only practicable from October to April, but this is the season for cyclones, to which it is particularly exposed.

10.12 Tanjona Tsihananina (Cap Tsihananina) (14° 57'S., 50° 19'E.) lies 4 miles SSE of Antataha. A group of above-water rocks fringe this cape, but there is no passage inside them; shoal depths extend not less than 1 mile seaward from these rocks. This cape should be given a wide berth.

Tanjon Antsirakosy (Cap Est) is the S entrance point to Rade d'Angontsy and is also the E extremity of Madagascar; this part of the coast is fringed by a reef in places.

Rade d'Angontsy (Angontsy Road) (15° 15'S., 50° 29'E.) lies close NW of Tanjon' Antsirakosy. The village of Angontsy stands on a sandy spit, 0.7 mile NW of Tanjon' Antsirakosy.

Winds—Weather.—Vessels can anchor in the roadstead, with protection from all but winds from the N to ENE.

Depths—Limitations.—The depths are 10.9 to 14.6m in the entrance, and from 7.3 to 10.9m in the roadstead itself.

Aspect.—Nosy Angontsy, lying on the coastal reef 0.2 mile ENE of Tanjon' Antsirakosy, is low-lying, flat, and covered with vegetation of a lighter color than that on the mainland; this circumstance helps to identify the locality, though the islet cannot be seen until after the hummocks on the mainland, and never appears detached from the coast until the vessel is entering Rade d'Angontsy.

Anchorage.—Vessels should approach the anchorage in Rade d'Angontsy, with Tanjon' Antsirakosy Light in line with the beacon at the village, bearing about 193°, and anchor a little W of this alignment in 10m, with Nosy Angontsy (15° 16'S., 50° 30'E.) bearing about 146°; the two beacons in line bearing 240°, also lead through the entrance to the bay. During the SE trade wind, the SE part of the bay is the safest.

Caution.—The entrance of Rade d'Angontsy is about 0.7 mile wide and trends SW between reefs lying off the coast. The reef on the NW side extends about 1 mile offshore; the reef on the SE side of the entrance channel extends about 1.5 miles N from Tanjon' Antsirakosy. These reefs are steep-to and plainly visible, so that entering the roadstead is not particularly difficult. Here and there are narrow, dangerous openings in the reef where the sea breaks heavily; in other openings there are high overfalls, but none of the openings can be mistaken for the wide entrance of Rade d'Angontsy.

Tanjon' Antsirakosy (Cap Est) (15° 16'S., 50° 29'E.) is a low, wooded point; the land in the vicinity first appears as a succession of hummocks. The point is bordered by reefs extending up to 1 mile offshore, beyond the reefs it is reported to be free of dangers.

The current is very strong off Tanjon' Antsirakosy, especially during the SE trade wind. Currents approaching the coast from the S or SE, set N or NE near the projecting land, and a counter-current, whose limit is uncertain, is formed close inshore off the receding coastline N. During hazy weather, or at night, a vessel should keep a good offing in order to avoid this counter-current.

An explosive dumping area is situated with its center about 20 miles ENE of Tanjon' Antsirakosy.

10.13 The coast in this area is backed by wooded hills which slope steeply to the sea, and are interspersed by sandy beaches. The coast is bordered by a reef extending up to 2 miles offshore; a few gaps in the reef give access to anchorages for small vessels. There are some islets and rocks on the coastal reef, and in good visibility a vessel may navigate close outside it. The reef is steep-to on its seaward side and the sea usually breaks on it.

Nosy Fanala (15° 26'S., 50° 28'E.), a long, low islet, lies on the coastal reef 10.5 miles S of Tanjon' Antsirakosy. Two isolated rocks, which dry between 0.9 and 1.8m, lie close off the coastal reef, 13.5 miles SSW of Nosy Fanala.

Ampanavoana (15° 41'S., 50° 21'E.), the capital of the district, stands on the bank of a river 3 miles S of the above rocks. Anchorage may be obtained 0.5 mile off the village, but it is not sheltered.

Nosy Ambatoharana (15° 56'S., 50° 15'E.) lies close off the coast, the islet is low and wooded. A wooded hill rises on the second ridge from the coast; when it is viewed from the NE it resembles a turtle shell, from the SE it appears as a long ridge trending inland.

There is anchorage off the village of Vinanivao, 2 miles NNE of Nosy Ambatoharana in Mouillage de Vinanivao, for a vessel up to 100m in length. The entrance to the anchorage is encumbered by reefs.

Tanjon'i Masoala (15° 59'S., 50° 14'E.) is high, wooded, and can be easily recognized. Nosy Nepato is a small islet, low and wooded, lying close E of the cape. Nosy Nepato is easily identified when open of the land; when not so open, the darker color of the vegetation on it when seen against the vegetation on the coast is of use as a mark.

Helodranon' Antongila (Baie d'Antongil)

10.14 Helodranon' Antongila is entered between **Cap Antsirikira** (Cap Baldrisy) (16° 00'S., 50° 10'E.) and Tanjona Belao (Cap Bellone).

Shoals of 19m lie 2.7 miles SSE and 4 miles SE, respectively, of Cap Antsirikira.

Aspect.—On all sides, Helodranon' Antongila is enclosed by high mountains covered with forests. Those on the E side are uneven, and are detached branches of a central chain, which decline to the shore in very remarkable long slopes, leaving deep valleys between them; those on the W side are uniform in elevation and shape, and form a wall running parallel with the coast. The land at the head of the bay is low; the two mountain ranges forming the sides continue to run N converging toward each other, and ultimately join, leaving a thickly wooded plain about 12 miles wide between them and the coast.

Cap Antsirikira is very low and cannot readily be distinguished; it is formed by a tongue of land that is prolonged S by Nosy Behentona, a low, sandy, light-colored islet partly covered with trees that shows up well against the coast. The islet is marked by a light. One of a number of rocks that lie around the islet is conspicuously black and lies S of the islet.

Directions.—In clear weather, there is no difficulty in entering Helodranon' Antongila, especially from the S, as the marks are easily identified.

When approaching from the N and rounding Tanjon'I Masoala, care is necessary to give the cape a wide berth because of the N current, the velocity of which is uncertain. The E shore of the bay can generally be seen at night.

10.15 East side of Helodranon' Antongila.—Ankazof otsy (15° 50'S., 50° 01'E.) is a village NW of Cap Antsirikira. Riviere Ankazofotsy flows into a bay at the village. A white rock, 10m high, its flat summit covered with trees, lies close S of the river mouth. Vessels with local knowledge can anchor 0.4 mile W of the mouth of Riviere Ankazofotsy in about 30m; the depths decrease rapidly toward the shore.

Antalavia is a village situated on the N side of the mouth of Riviere Antalavia, 3.2 miles N of Ankazototsy. A small beach of yellow sand marks the river mouth.

A vessel approaching Antalavia from the S should bring a conspicuous whitewashed tree, standing beside a conspicuous house in the village, to bear 047°; steer for it on that bearing and anchor in 18m, fine yellow sand, with the mouth of Riviere Sahaleona, 0.5 mile S of the village, bearing 135°. A vessel approaching from the N should give the coast a berth of at least 1.5 miles. This anchorage is encumbered by rocks.

Lohatanjon'I Tampolo (Pointe Tampolo) (15° 44'S., 49° 57'E.) can be identified as being low-lying while the other points in the vicinity are high. A vessel can anchor about 0.3 mile N of the point in 15m, mud bottom.

Riviere Ambanizana flows into the bay 6.7 miles N of Lohatanjon'I Tampolo. Anchorage in about 7m may be obtained 0.5 mile NW of the mouth of Riviere Ambanizana. Care is necessary to avoid a sandbank, which extends from the river mouth. The anchorage can be approached on a bearing of 047° on the village of Ambatambe. The village is not visible from offshore, therefore, bearings of the mouth of Riviere Ambanizana and Pointe Nandrahana, about 2.3 miles NW, are helpful.

10.16 West side of Helodranon' Antongila.—Mananara (16° 10'S., 49° 46'E.) is a town WNW of Tanjona Belao (16° 14'S., 49° 51'E.); anchorage is available in the roadstead off the town.

Aspect.—Baie Mananara, into which Riviere Mananara flows from the SW, can be identified by Pointe d'Ambitsika, the extremity of a wedge-shaped tongue of land extending in an ENE direction from the coast; the W and higher part of the tongue of land is darker than the rest of the coast.

Good landmarks are the Residency at Mananara, standing on a hill, 37m high, 1.7 miles WSW of Pointe d'Ambitsika, and Colline Mahambolona, a bare conical hill, 42m high, with a beacon on it, 0.5 mile SE of the Residency.

Pic Ankirihiry, an isolated conical hill, rising 18 miles W of Pointe d'Ambitsika and 819m high, is not visible when bearing

more than 283°. A conspicuous tree, painted white with a black vertical stripe, stands on the shore 0.2 mile S of Ile aux Mouettes.

The front mark of the first range is the light on the NW extremity of Ilot Rocheux; the rear mark is the wooded summit of Antevialabe, a hill, 439m high, rising about 5 miles SSW of Ilot Rocheux. These marks are in line bearing 210°.

The front mark of the second range is the large isolated tree, described above, standing on the shore S of Ile aux Mouettes. The rear mark of this range is a small beacon on a bare, 43m summit, Mahambolona, rising SE of the town. These marks are in line bearing 154°.

Between Riviere Mananara and Cap Tanjona the coast is fringed by numerous black rocks, always easily seen.

Directions.—A vessel approaching Baie Mananara from the ENE, having rounded Cap Masoala and Cap Antsirikira, should steer for Pic Ankirihiry until the light on Ilot Rocheux bears about 210°; this bearing should be maintained until the conspicuous black and white painted tree on the coasts of Ile aux Mouettes is in line with the white beacon on Colline Mahambolona, bearing about 154°. The intersection of these two bearings indicates the anchorage which is in depths from 12 to 14m, hard sand.

Anchorage can also be obtained in a depth of 10m on the same range, bearing about 154°, and with the light on Ilot Rocheux, bearing 225°.

A vessel coming from the SE should pass about 5 miles off Cap Bellone, and steer a NNW course until Pic Ankirihiry is on a W bearing, when she should proceed as directed above.

A vessel coming from the head of Baie d'Antongil should, after passing Cap Tanjona, steer for Cap Bellone until the light on Ilot Rocheux bears about 210°, when she should proceed as previously directed.

Caution.—Ile aux Mouettes, 8.5m high, 1 mile E of the light on Ilot Rocheux, lies on the coastal reef, which extends 0.5 mile seaward, with depths of less than 5.5m, and which dries in places. A 1.5m patch lies on the seaward edge of the reef, 0.3 mile NW of Ile aux Mouettes.

Banc des Cormorans, with depths from 1.5 to 11m, lies from 1.2 to 1.7 miles NE of the light on Ilot Rocheux. A rock, with a depth of 3.7m, lies 0.1 mile SW of its SW end; the rock scarcely shows in calm weather, but the sea breaks heavily on it during SE winds.

10.17 North side of Helodranon' Antongila.—Pointe Ansirake (15° 27'S., 49° 45'E.) lies on the E side of Riviere Antanambalana, at the head of the bay, 27 miles N of Cap Tanjona. Pointe Veringotra, 3 miles W of Pointe Ansiraka, can be distinguished by its two hillocks.

A bank, with depths of less than 3m, fronts the mouth of Riviere Antanambalana, and extends 0.7 mile S from the mangrove fringed Pointe Ansiraka; it tends to advance SW.

Nosy Milomboka (15° 35'S., 49° 45'E.) lies on an isolated shoal patch 7.7 miles S of Pointe Ansiraka, in the approach to Maroantsetra; it is the farthest S of several island extending N. Nosy Mitombo lies on the same shoal patch, 0.5 mile NNW of Nosy Milomboka. Nosy Haramy and Nosy Ravina lie 2.2 and 3 miles N, respectively, of Nosy Milomboka. Nosy Mangabe (15° 30'S., 49° 45'E.), 333m high, is the largest of the above chain of islands; it lies 2 miles SSE of Pointe Ansiraka.

There are several shoals on the W side of the approach to Maroantsetra. The one nearest the fairway has a depth of 6.4m; it lies 3.7 miles WNW of the light on Nosy Mangabe.

Maroantsetra (15° 27'S., 49° 49'E.) ([World Port Index No. 47590](#)) is situated at the head of Helodranon' Antongila, 1 mile NW of Pointe Antsiraka, where Riviere Anjahanambo flows from W along the head of the bay into the mouth of Riviere Antanambalana; the port is very small and consists of a town and an open roadstead.

Signals.—There is a signal station at Maroantsetra with which vessels can communicate by day. Signals indicating the locality threatened by a cyclone are shown.

Anchorage.—There is anchorage off Maroantsetra in 11m, mud, with the range lights at the head of the bay in line bearing about 045°, and the SW extremity of Nosy Mangabe in line with the NW extremity of Nosy Haramy, bearing about 155°; this anchorage affords no shelter from the SE trade wind, when vessels seek shelter at Port Memoria, on the W side of Nosy Mangabe. Vessels may anchor anywhere around Nosy Mangabe in depths from 14 to 18m, 0.2 or 0.3 mile offshore, avoiding the reef, partly above-water, that lies about 0.2 mile off the SE extremity of the island. The best anchorage off Nosy Mangabe is in Port Memoria; there is a berth with a rock on the E side of the cove in line with the trunk of a large tree, bearing 078°, and the W fall of the land N of the cove bearing 355°, where excellent shelter has been found from S and E winds.

Tanjona Belao to Lohatanjon' Antsiraka

10.18 Tanjona Belao (16° 14'S., 49° 51'E.), the SW entrance point to Helodranon' Antongila, a high rounded mass of rock which is visible from a distance of 40 miles, is the termination of a mountain range that extends along the coast in a SSW. A beacon stands on the summit of the rock mass.

From Tanjona Belao the coast trends S to Tanjona Lohatrozona (Cap Lohatrozana), the S entrance point to Baie de Antanambe.

Nosy Atafana (16° 19'S., 49° 50'E.) lies on a reef which has a depth of 1.9m off its NE side; it is the largest of three islets that lie on this reef. From a distance of 2 or 3 miles, Nosy Atafana appears as two islets, the S and smaller part is wedge-shaped. The dark vegetation on the islet stands out clearly against the lighter vegetation on the mainland.

Antanambe is a town situated on the SE shore of Baie de Ananambe, 0.7 mile SW of Tanjona Lohatrozona. A hotel stands at the NE end of Antanambe.

For the assistance of vessels anchoring, two beacons, each 4.9m high, stand on the shores of the bay. The W beacon stands 0.1 mile SSE of the S entrance point of Riviere Vahibe, nearly 2 miles WNW of Tanjona Lohatrozona. The E beacon stands on the E side of the bay, 0.2 mile NNE of the hotel.

Reefs extend 1 mile NE and 2 miles SE of Tanjona Lohatrozona; a depth of 4.2m is charted just over 2 miles SE of this point. In the approach to Baie de Antanambe, Tanjona Lohatrozona should be given a wide berth.

10.19 Lohatanjona Titingo (Pointe Tintingue) (16° 42'S., 49° 46'E.) is a hill, rising to a height of 194m, 2 miles NNW of the point.

Baie de Tintingue is entered between **Pointe Mahela** (16° 42'S., 49° 45'E.) and the mouth of Riviere Fandrazana.

A current has been reported, usually setting ESE, in the entrance channels of Baie de Tintingue.

The bay is encumbered with rocks and shoals and is difficult to access; it is only suitable for vessels of shallow draft.

There is anchorage in 7m, mud, with Pointe Mahela bearing 195°, and the white patch on Nosy Vorona, in the W part of the bay, bearing 252°. Anchorage can be obtained outside Baie de Tintingue in 35m, with Pointe Mahela bearing 319°, distant 3 miles.

A vessel should approach Baie de Tintingue, to a position 1 mile distant bearing 160° from Pointe Mahela, and then steer through Passe du Golo with the two beacons 1.5 miles SW of Pointe Mahela in line bearing 279°. This line leads through a buoyed channel to the anchorage. There are no pilots available and only those vessels with local knowledge should attempt entry.

Lohatanjon' Antsiraka (Pointe a Larree) (16° 50'S., 49° 50'E.) is a long, low, sandy projection that is partly wooded; it is visible about 10 miles in clear weather.

Anchorage can be taken off the N side of this point; the holding ground is good. Anchorage can also be taken about 8 miles NW of Lohatanjon' Antsiraka, about 0.5 mile offshore, in 26m, good holding ground. This anchorage is sheltered from SE winds, but is exposed to the ENE swell.

The currents are strong off Lohatanjon' Antsiraka, but elsewhere in the vicinity they are generally variable and of moderate strength. As a rule they follow the direction of the wind, so that the N current set predominates.

Nosy Sainte Marie

10.20 Nosy Sainte Marie (16° 53'S., 49° 55'E.) lies with its N extremity, Lohatanjon' Antsirakakambana (Pointe Albrand) (16° 42'S., 50° 00'E.) is separated from Madagascar by Canal de Sainte-Marie. From Lohatanjon' Antsirakakambana, Nosy Sainte Marie extends 28 miles SSW; the surface of the island is undulating and the hills attain heights up to 122m. The island is thickly wooded, but throughout the valleys are either beds of rivelets of fresh water or salt water marshes which cover at spring tides.

10.21 East side of Nosy Sainte Marie.—Lohatanjon' Antsirakakambana, the N extremity of the island, is backed by a forest; a light exhibited at a height of 80m is situated 2.5 miles SSW of the point. The point is fringed by rocks, and depths of less than 11m extend 1 mile NE from it. The E coast of Nosy Sainte Marie is bordered by a coral reef; the 30m curve line lies up to 10 miles off this coast, and there are several off-lying dangers.

A drying reef, which nearly always breaks, lies 12.5 miles S of Lohatanjon' Antsirakakambana. The several banks in this area lie within the 30m curve; their positions are best seen on the area chart.

Lohatanjona Vohibato (Pointe Blevec) (17° 08'S., 49° 48'E.), marked by a light, usually considered the S extremity of Nosy Sainte Marie, is actually the S extremity of Nosy Nato (Ile de Nattes), which is low and separated from the larger island by a narrow boat channel.

A drying reef extends 1.5 miles S from Nosy Nato. Toraka Vohibato (Banc de Blevee), with a depth of 11m, lies 4.5 miles SSE of Nosy Nato, and reefs, which dry, lie from 3 to 5 miles ENE of Lohatanjona Vohibato, and about 2.5 miles offshore.

The E coast of Nosy Sainte Marie is exposed to the SE trade wind and a heavy swell sets in. There is no sheltered anchorage, but Anse d'Ampanhy midway along this coast may provide refuge for boats. The entrance to this cove, through a narrow gap in the coastal reef, can be identified by a white cliff at its head. The entrance has not been examined and breakers have been seen there.

10.22 West side of Nosy Sainte Marie.—Lohatanjon' Antsitakaraiky (Pointe d'Antsirakaraiky) (16° 45'S., 49° 58'E.) can be identified by its sandy beach; the N part of this low salient point is covered with casuarina and coconut palms, but the S part by coconut palms only.

Anchorage.—Anchorage can be obtained in the bay on the N side of Lohatanjon' Antsirakaraiky in 16.5m, sand, with the light bearing 117°, distant 1.5 miles. This anchorage, which is sheltered from E and S winds, lies 0.5 mile offshore; there are no known dangers between this position and the 10m curve which lies about 0.4 mile offshore. There is anchorage 1.7 miles S of the point off the village of Ambatoroa in 7m, sand, 0.4 mile offshore. This anchorage is open SW, but is sheltered from winds from the S through E to NE.

Directions.—Vessels approaching Port Sainte-Marie from the N or S should not approach closer than 1 mile to the shore of Ile Sainte-Marie, until a position is reached from Ilot Madame Light bears 134° and is in line with the cathedral in the E part of the harbor. This range should then be followed to the anchorage position.

10.23 Pointe Tafondro (16° 53'S., 49° 53'E.) lies 12 miles SSW of the N extremity of the island. A reef extends nearly 0.2 mile N of the point. This point should be given a wide berth.

Port Sainte Marie (Ambodifotatra) (17° 00'S., 49° 51'E.) (World Port Index No. 47570) is situated on the W side of Nosy Saint Marie is an open roadstead for large vessels.

Depths—Limitations.—Ocean-going vessels can anchor in the roadstead off Port Sainte-Marie.

Aspect.—Pointe des Sorciers, the N entrance point, is a small hill marked by white-washed rocks. Rocher des Baleiniers, the S entrance point, is high and black with a clump of trees on it. The following are good landmarks; the buildings of Ilot Madame; the barracks, situated on a hill, 45m high, 0.2 mile E of Ilot Madame; a storehouse, 0.2 mile N of the barracks; and a yellow church, 0.1 mile SW of the barracks; this church stands out well when approached from the N.

Anchorage.—Anchorage can be obtained on the range line in about 20m, muddy sand, with Pointe des Sorciers Light bearing 051°. There is also anchorage in 12m, with swinging room of 0.1 mile, with the light on the head of the jetty at Port Sainte-Marie in line with the white bank on the S end of the roof of the storehouse nearest to the basin at Port Saint-Marie, bearing 098°, and Ilot Madame Light bearing 166°.

Vessels surprised in the roadstead by bad weather from the S or SW should take shelter under Lohatanjon' Antsiraka, 9 miles N.

Caution.—Shoals, with depths of 4m and 7.6m, lie on the N side of the fairway, 800m and 0.5 mile WSW, respectively, of

Pointe des Sorciers, the N entrance point; there are two 5.5m patches 0.1 mile N and S of the 4m shoal. A buoy marks the SW side of a shoal, with a depth of 4.3m, 0.3 mile NNW of Ilot Madame Light. On the S side of the fairway there are depths of 7.6m and 11.9m, 0.2 mile and 0.3 mile WNW and NW, respectively, of Ilot Madame Light; these dangers are covered by the red sector of Pointe des Sorciers Light, bearing less than 050°. A buoy marks the N side of a 3.7m shoal, 0.2 mile NW of Ilot Madame Light; a buoy, moored 137m N of the light, marks the edge of a bank extending from the islet. A reef extends nearly 0.1 mile from the NW side of Ilot Madame.

10.24 Canal de Sainte-Marie.—The most narrow part of the canal is SE of Lohatanjon' Antsiraka (16° 50'S., 49° 50'E.), where the width is about 3.5 miles between the point and Nosy Sainte Marie.

Toraka Fry (Banc Fry) (17° 12'S., 49° 35'E.), with a depth of 7.3m, lies in the S part of Canal de Sainte-Marie. Depths of 11m lie 9.5 and 12 miles WSW of Lohatanjon' Antsiraka.

Anchorage.—Where the depths are suitable, any part of Canal de Sainte-Marie may be considered as a fairly secure roadstead. The holding ground N of Lohatanjon' Antsiraka is good, but S and SW of the point the bottom is loose and sandy and heavy seas come tumbling in; the E side of the canal, where the reefs are steep-to and may be approached closely, is the best anchorage. Anchorage may be taken off the village Soanierana-Ivongo, 15 miles WSW of Lohatanjon' Antsiraka, in about 10m, sand, with the fort at Port Sainte Marie bearing 110°. An 11m depth lies in the approach to this anchorage.

Canal de Sainte-Marie to Toamasina

10.25 Between the mouth of Riviere Maningory (17° 12'S., 49° 28'E.) and the town of Fenerive, 11 miles SSW, the coast is low and sparsely wooded. Pointe Takoandra (17° 25'S., 49° 27'E.), wooded and moderately high, is located 3 miles SE of Fenerive; the point is marked by a beacon.

Pointe du Nouvel Hopital (17° 23'S., 49° 25'E.), 2.7 miles N of Pointe Takoandra, can be identified by an isolated, barren, flat-topped hill about 49m high, rising 1.2 miles SW of the point. An old fort and a disused light stand on the hill.

There are three hills near the coast, from 0.6 mile to 1 mile SE of Pointe du Nouvel Hopital. The Residency, with a flagstaff nearby, stands on the NW hill; it is visible from some distance. Colline Lakaria, the SE hill, is marked by a light.

Nosy Ilansambo, lying 0.6 mile ESE of Pointe du Nouvel Hopital, is low and covered by trees; it is fringed by a sandy beach and a continuous reef, which breaks heavily. A reef extends 0.2 mile NE from the island. The reefs cause the islet to stand out well when approached from the SE, but from the NE, it is not distinguishable until within 3 or 4 miles.

The coast between Nosy Ilansambo and Pointe Takoandra is fringed by a reef, which extends up to 0.4 mile offshore; the sea breaks on this reef. Several shoals, having a least depth of 2.7m, lie within 2.2 miles NE and E of Pointe du Nouvel Hopital. Vessels should not attempt to pass between these shoals and the reef extending NE from Nosy Ilansambo.

Fenerive (17° 23'S., 49° 25'E.) (World Port Index No. 47560) consists of a town, a very small harbor, and an open roadstead.

Anchorage.—Anchorage off Fenerive, which is exposed and dangerous in winter, should only be considered temporary. Large vessels can anchor in about 11m on the 224° range line, with the flagstaff bearing about 190°. Small vessels can anchor in 7.3m, on the 224° range, with the light bearing 164°, or with the light bearing 181° and Pointe du Nouvel Hopital bearing about 271°; the latter is better protected from the swell and wind by Nosy Ilansambo.

Directions.—Vessels approaching from the N should stay at least 5 miles off the coast to avoid the foul ground N of Fenerive, until the range beacons situated W of Pointe du Nouvel Hopital and on Vohimassoa Fort, which establish a course of 224°, are in range. One authority recommends that the land in the vicinity of Pointe Takoandra be made, or even the land in a position farther S, and that then the directions given for a vessel approaching from the SE be followed.

Vessels approaching from the SE should steer so as to pass at least 1 mile E of Pointe Takoandra, and then to make good a course of 350° for about 4 miles to a position where the 224° range can be followed to the anchorage.

Between Pointe Takoandra and Foulpointe the coast is irregular, consisting of a series of beaches and rocky points; it is fringed by rocks, especially off the points. Reefs extend up to 0.6 mile offshore and are marked by breakers.

There are several banks off this coast whose positions may be seen on the area chart; their depths vary from 11 to 13m. Toraka Laperouse (Banc du Laperouse) (17° 23'S., 49° 40'E.), with a depth of 13m, lies 11 miles offshore, ENE of Pointe Takoandra. The other banks in this area extend about 8 miles SSW.

10.26 Mahambo (17° 29'S., 49° 28'E.) is situated 4 miles S of Pointe Takoandra; the ground in the vicinity is a reddish color. A wooded point lies E of the village and the outlet of Rivierre Tsirita, about 1.5 miles NW, lies between 2 rock-bordered points. A conspicuous rock, La Bitte, so called by its resemblance to a vessels bitt, rises from the reef extending off the middle point.

The best anchorage, but practicable only for small vessels with local knowledge, is in about 9m, N of Mahambo and NW of a reef, which extends NE from the village. Large vessels must anchor outside the reefs where they are exposed to the swell; La Bitte is a mark for the anchorage area.

Grand Recif (17° 40'S., 49° 32'E.) is a projection of the coastal reef, which fringes the point at Foulpointe, extends 1 mile NE from the village. The reef is not steep-to and is separated from the coast by a narrow boat channel.

Toraka Mahavelona (Bancs de Foulpointe) lies close E and NE of Grand Recif. A depth of 10m lies in the approach to Foulpointe, 1.7 miles NNE of Grand Recif.

The coast in the vicinity of Foulpointe may be identified by some high white sandhills, with trees on their summits.

10.27 Foulpointe (17° 40'S., 49° 31'E.) ([World Port Index No. 47550](#)) is a large village standing on low ground, close W of Grand Recif. The port is small and consists of the village and an open roadstead. The ruins of Fort Hova, about 15.2 high, are situated about 0.5 mile W of the village.

There is safe anchorage during the good season, from April to October, when the prevailing winds are from between the S

and SE; it is open to N and NE winds, but these seldom last long, and do not raise a high sea.

Anchorage can be obtained in 13m, speckled sand, good holding ground, with the ruined Fort Hova bearing about 220° and the N extremity of Grand Recif bearing 090°; this anchorage, which affords reasonable shelter from N winds, is only about 0.1 mile from the 9.1m curve.

There is anchorage in depths from 9 to 10m, with the N extremity of Grand Recif bearing 058° and the tangent of the coast S of the village bearing 183°; this anchorage is only 0.1 mile from the reef and is close to the 5m curve. This anchorage is convenient for small vessels during S winds, but if blowing strongly from that direction, a slight W swell is felt in the roadstead causing vessels to roll.

Between Foulpointe and Toamasina (Tamatave) the coast is fringed for about 8 miles with reefs which have not been well defined, and should not be closed within 0.5 mile.

Toraka Antetezana (Banc d'Antetezana) (17° 49'S., 49° 33'E.) lies 3 miles offshore has a least charted depth of 11m.

Mamelles de Natte (17° 50'S., 49° 25'E.) are two conspicuous hills. Fausses Mamelles rise near the coast, about 1.3 miles E of Mamelles de Natte, and resemble the latter. Although they are not nearly as high, in hazy weather there is a possibility of mistaking them. Southward of these hills, the coast is thickly wooded and decreases in elevation towards Toamasina.

As the white sandy coast S of Collines Mamelles de Natte is free from dangers outside a distance of 0.5 mile, vessels proceeding along the coast should keep about 1 mile offshore, and thus pass within all the outlying dangers off this part of the coast. This practice is particularly recommended by day, and also for those with local knowledge on a clear night, for the land is easily followed by the white line of breakers.

Riviere Ifontsy flows into the sea about 13 miles S of Foulpointe. Anchorage can be taken off the outlet in 24 to 29m, or in a position as far as 3 miles N of the outlet.

Ile aux Prunes (18° 03'S., 48° 28'E.), a small coral island, is low and level and its shores are perpendicular. The tops of trees covering the island have heights up to 27m; their uniform dark green foliage makes the island stand out clearly from the mainland. It is visible from distances up to 15 miles, and is a very useful mark for vessels proceeding to Toamasina. Vessels approaching from the S will first sight the flare of the oil refinery at Manangareza.

Toamasina (18° 10'S., 49° 25'E.)

[World Port Index No. 47540](#)

10.28 Toamasina (Tamatave) is the principal port of Madagascar, it is connected by rail with Tananarive, the capital. The harbor lies between Lohatanjona Hastie (Pointe Hastie) and Pointe Tanio, 1.5 miles NNW. The port consists of the town and a small natural harbor protected from the NE by reefs and a breakwater.

Winds—Weather.—Toamasina is sheltered from the winds and seas by Ilay Harandriaka Lehibe (Le Grand Recif) and the breakwater. The heavy storms occurring from November to February may effect berthing at the wharves because of the swell; at this time vessels may have to put to sea or anchor in the harbor.

Tides—Curr ents.—The tidal range is from 0.4m at MLWS to 1m at MHWS. Caution is necessary because of the uncertainty of the current, for at the same season and apparently under similar conditions, a vessel may be set 10 or 12 miles N or S. During SE winds, no reliance can be placed on a N current, but during winds from between the N and NE, which are comparatively rare, a fairly strong S current will generally be found. On the whole it is best to be prepared for the latter, and if approaching from the E, to make the land between Mamelles de Natte and Ile aux Prunes.

The currents near the coast and in the channels leading to Tamatave are affected by the wind, and usually set in the same direction as the wind. However, in Passe du Sud, a current is reported to set frequently ESE at a velocity of 1.5 to 2 knots.

From October to December, it often happens that the current continues to set S, even when a S wind has been blowing for some time; from March to September, the current sometimes sets strongly N, even when the S winds, which predominate during this season, are not blowing, but it is also possible to experience a S set when a S wind is blowing.

The maximum velocity of the S current, from observations made during 1931 to 1933, is about 1.3 knots; the N current attained a slightly lesser velocity. It is probable that these velocities are exceeded during strong winds. The currents appear to be stronger S than N of Toamasina.

Depths—Limitations.— There are berths in the harbor that will accommodate cargo vessels with a draft from 6 to 10m. The ore berth will accommodate a vessel of 9.5m draft, and the tanker berth will accommodate a draft of 12.2m.

Passenger vessels are limited to a maximum length of 200m in the roadstead. Cargo vessels are limited to a length of 180m and a draft of 9.5m. Tankers are limited to 230m and a draft of 12.2m.

The following was reported in 1994:

1. Li Grand Recif was easily distinguished by sand bars and numerous breakers.
2. Le Petit Recif was only slightly discernible in daylight; there were no breakers, but there was a slight discoloration of water.
3. Toraka Six-Meters was not discernible in any way.

Aspect.—The land around Toamasina is low and consists of small hills which are difficult to identify from seaward, but the high land behind, in clear weather, may be seen at a distance of 35 miles.

A vessel approaching from the S, in 1987, reported the first visible landmark was the large white grain silo on the wharves of the inner harbor. The light on Nosy Alanana (Ile aux Prunes) was identified at 17.5 miles.

When Toamasina is approached from the NE, Mamelles de Natte and Fausses Mamelles will be seen, also Pic Vohitravoha, 10 miles SSW of Mamelles de Natte. Nosy Alanana, 5.5 miles NNE of Pointe Tanio, shows up well because of its tall trees and its light.

Other marks are Grande Passe de l'Est Front Range Light and the white houses of Ampanalana Village on the coast 2.7 and 1.7 miles NNW, respectively, of Pointe Tanio. The radio mast, 0.7 mile WNW of the point, and the group of cranes on the harbor moles and towers, and water tanks close SE of the moles are conspicuous.

Pilotage.—Pilotage is compulsory and is available 0600-1600 hours. Send ETA to agent who informs pilots and port of requirements, message to contain information on cargo to be worked. Messages can be sent through Toamasina (SRS). The pilot boards about 1 mile NNE of the light on Pointe Tanio.

In a ships visit, in 1987, the pilot embarked inside the reefs, about 2 miles NNE of Pointe Tanio.

Signals.—There is a signal station at the Port Office; signals indicate the locality threatened by a cyclone.

Anchorage.—There are no special anchorages. If upon arrival there are no berths, the pilot will anchor the vessel between the reefs and the shore according to length and draft.

The best anchorage is with the light on Pointe Tanio bearing 275°, about 0.5 mile distant, in a depth of 22m. Vessels in quarantine anchor in a position 0.6 mile NNE of Pointe Tanio in a depth of about 20m.

Directions.—**Toraka Ifontsy** (Banc d' Ifontsy) (17° 53'S., 49° 32'E.), with a least charted depth of 7.6m, lies 4 miles offshore, 16.5 miles NNE of Pointe Tanio. Torako Marie-Eugenie, with a depth of 6.6m, lies 2.2 miles SSW of Toraka Ifontsy.

Passe du Nord-Est, which passes between the reefs, is not recommended as the landmarks can not be made out very well.

Grande Passe de l'Est, formed between Toraka Six-Metres (Banc des Six-Metres), is the principal entrance. The lights in line bearing 277° lead from seaward. It has been reported (1993) that the range lights are not lit at night.

It should be noted that frequent heavy rains squalls, experienced in approaching, may obscure all visible aids to navigation.

Toamasina to Mahanoro

10.29 From Toamasina the coast trends in a general SSW to Vatamandry; there are few indentations in this coast. There are no dangers charted seaward of the 50m curve.

Nosy Faho (18° 18'S., 49° 24'E.) is located at the S extremity of a coral reef, 8.5 miles S of Lohatanjona Hastie, and about 2.8 miles offshore. The 10m curve line lies 1.5 miles N and 1 mile S of the island.

Nosy Dombala (18° 26'S., 49° 24'E.) is a sandbank on a coral reef, 7.5 miles S of Nosy Faho; these reefs are clearly marked by breakers. Toraka Malagasy (Bank Malagasy), a 6.3m depth, lies 2 miles NNE of Nosy Dombala. Vessels should not attempt to proceed through the passage between Nosy Faho and Nosy Dombala; if the vessel is obliged to do so it is better to keep close to Nosy Faho. There is a good anchorage W of Nosy Dombala, protected from SE storms, in a depth of 18m.

Toraka Tourmaline (Banc de la Tourmaline) (18° 39'S., 49° 19'E.) lies 4.5 miles offshore, has a charted depth of 11m and breaks in bad weather. Banc d'Anteyorando, with a depth of 9.7m, lies 7.2 miles offshore 12 miles SSW of Toraka Tourmaline. Riviere Iaroka enters the sea in the position 18° 58'S, 49° 06'E. The spray of breakers extending some distance off the outlet of the river is said to be visible from a distance of 10 miles seaward. Andevoranto is a large village on the N side of Riviere Iaroka near the entrance. There is anchorage, with a bottom of sand, off the village. The sea was reported to break during heavy weather in several places about 6 miles offshore, 10 miles SSE of Andevoranto.

Rocher Noir is a conspicuous black islet, lying a short distance offshore, in the position 19° 12'S, 49° 01'E.

La Selle rises at the N end of the nearest ridge of hills in the position 19° 14'S, 48° 48'E. The formation appears as a tableland when seen from the N, but as a saddle when seen from the E or S.

Vatomandry (19° 20'S., 49° 00'E.) is situated at the mouth of Riviere Marolo. This small port, which consists of a village and open roadstead, was closed to maritime traffic in 1950.

There are many dangers in the vicinity of Vatomandry; the farthest SE is a rock charted 5.2 miles offshore.

10.30 Between Vatomandry and Mahanoro the low coast is bordered by trees broken by the mouths of several rivers.

Colline Ronde (19° 39'S., 48° 44'E.) is located on the second ridge and has a dark conical summit and is one of a number of conspicuous hills in this vicinity. Saddle rises S of Colline Ronde in a position 15 miles W of Mahanoro; its summit is slightly hollowed at the center. When seen from the N, the outline of the hill appears against the sky; from the S it shows a dark outline against a background of distant mountains.

Caution.—A rock, with a depth of 7m, lies 4.7 miles SE of Vatomandry; its charted position is doubtful.

Toraka Vaudreuil (Banc du Vaudreuil) (19° 30'S., 48° 56'E.) has a rock, awash, located in about its center; the bank extends about 2 miles N and 2 miles S from the rock. This bank lies about 1.5 miles offshore, 11 miles SSW of Vatomandry. A shoal, with a depth of 8m, is located 7 miles NNE of Mahanoro, and another with a depth of 4m, lies 3 miles in the same direction.

10.31 Mahanoro (19° 55'S., 48° 49'E.) ([World Port Index No. 47520](#)) is situated on a wooded peninsula forming the E side of a river, which flows into the sea from a large lagoon. The port is small and consists of an open roadstead. The Residency, conspicuous from the NE, stands on a hill on the E side of the village. A chain of reefs extends 2.5 miles NE from the peninsula; all approaches should be from N of these reefs, and only in daylight.

There is anchorage in 5.5m, with the Residency bearing 198°. A heavy sea from the SE sets into the anchorage in June and July and communication with shore may be interrupted for several consecutive days. Signals indicating the locality threatened by cyclones are shown at the signal station.

Mahanoro to Manakara

10.32 The Riviere Mangoro (Riviere Nosivolo) flows into the sea about 6 miles S of Mahanoro. The muddy waters of the river discolor the sea to a distance of several miles off its outlet. Navigators unaware of this fact frequently suspect shoals, but such is not the case as the depths off the outlet are very great and there are no known dangers.

Pain de Sucre, a conspicuous hill of sugarloaf shape, rising in the position 20° 35'S., 48° 16'E., inclines slightly to the S. The hills then diminish in elevation to the S; the last of any prominence has a summit of moderate height resembling three teeth of a saw from the NE and SE, and appearing as an undefined mass from the E.

Riviere Sakaleona enters the sea in the position 20° 33'S, 48° 34'E. Anchorage can be taken in 31m off the outlet of the river. In the recommended position, Pain de Sucre bears 253°; the bottom of fine red sand is of indifferent holding quality. The depths decrease very slowly and regularly from the anchorage toward the outlet of the river. The depths in a position about 0.2 mile from a bar across the outlet is reported to be 10m. In depths of less than 20m in this area the bottom is of coral; in depths of more than 20m the bottom is of fine red sand. Communication with the shore is usually difficult.

Mahela (20° 58'S., 48° 27'E.), on the N side of the mouth of Riviere Fanantara, can be identified by a row of casuarina trees, which border the coast N of the village and extends SW from it. Vessels can anchor in the open roadstead off the village. The best berth is with a conspicuous house bearing between 270° and 281° in 22 or 24m, sand and coral. Except between these bearings, the bottom is foul. This anchorage is impracticable during the SE trade winds.

Communication with the shore at Mahela is by means of decked surf boats, and should not be attempted in ships boats or by strangers. The landing place is inside the bar.

A vessel approaching the open roadstead at Mahela from the N or E should make the land about Sommet Pain du Sucre, then coast along in depths of 14 to 15m to the anchorage.

10.33 Mananjary (21° 15'S., 48° 20'E.) ([World Port Index No. 47510](#)) is situated on the N side of the mouth of Riviere Mananjary; the port is very small and consists of the town and an open roadstead. The current about 6 miles E of Mananjary was observed, in 1944, to set S at 1.5 knots, but a strong N set was encountered when the anchorage was approached.

A hospital in green and red colors, surrounded by casuarina trees, is situated 2 miles N of the river mouth; the gray water tower, 0.5 mile SW of the hospital, and the Residency at the S end of town are good marks from the offing. Mont Vatovary (21° 24'S., 47° 57'E.) is higher than the neighboring summits and of darkish color.

Signals.—Signals indicating the locality threatened by a cyclone are displayed in Mananjary.

Directions.—The anchorage position should be approached by steering in with the S pair of lights in line bearing 269° to the intersection of the alignments of the two pairs of range light beacons bearing 269° and 331°.

Riviere Faraony (21° 48'S., 48° 10'E.) enters the sea about 33 miles SSW of Mananjary; outside the reef which fronts the mouth of the river there is anchorage with a bottom of sand and coral. Breakers have been reported in a position about 4 miles SSE of the river's mouth.

Ambataloborona (21° 57'S., 48° 07'E.), a rock, lies close offshore 10 miles SSW of Riviere Faraony.

Riviere Mananano enters the sea about SSW of Ambataloborona; the tall casuarina trees at the mouth of the river are conspicuous.

10.34 Manakara (22° 09'S., 48° 03'E.) ([World Port Index No. 47500](#)) is comprised of two small towns lying on the N and S banks of Riviere Manakara. The port consists of the two towns and an open roadstead; it is very small.

A chain of shoals lie about 0.7 mile offshore off the towns. Anchorage may be taken outside these shoals, just over 1 mile ENE of the Residency in a depth of 15m, and in a depth of 12m about 0.2 mile farther in the same direction. An isolated shoal, with a least charted depth of 8.5m, lies in a position bearing 072°, 1.2 miles distance from the Residency. A shoal of 10.1m, whose existence is doubtful, lies 0.4 mile E of the 8.5m depth, above.

Manakara to Baie de Sainte-Luce

10.35 Between Manakara and Farafangana the coast is low and wooded and has no outstanding features; close within is a continuation of a chain of lagoons and rivers. The mountains of the interior are visible only in exceptionally clear weather. A wooded plateau, 10 miles N of Farafangana, is a good mark for identifying that place when approaching from the N.

Matatana (Riviere Matitanana) enters the sea in position 22° 26'S, 47° 55'E, 18 miles SSW of Manakara. The mouth of Matatana forms a large estuary, which is completely obstructed by breakers extending about 0.5 mile offshore.

From 4 to 5 miles S of the mouth of Matatana a barrier reef extends 8 or 9 miles SSW and lies about 0.5 mile offshore. There is a passage near the N end of the reef, which has been used by coasters. Small vessels, with local knowledge, can use this passage and anchor off Andranamby.

Anosikely (Nosikely) (22° 42'S., 47° 51'E.) is a village situated on a gray hill 10 miles S of Andranamby; anchorage can be taken E of the village and N of a large black rock in a depth of 15m. Passengers can be embarked here when weather is too bad at Farafangana.

10.36 Farafangana (22° 49'S., 47° 50'E.) ([World Port Index No. 47490](#)) stands between Rivières Manambotra and Manambato, and close within the common mouth. The port consists of the town and an open roadstead. It was reported, in 1972, to be closed to maritime traffic.

The current off Farafangana usually sets SSW at a velocity from 1 to 2.75 knots. During heavy rains, the water from the rivers discolor the sea and this water has been reported up to 12 miles E of town.

Anchorage, with poor holding ground, may be taken 0.2 mile off the outer reefs in a depth of 14.9m; the outer reefs lie up to 0.7 mile offshore and do not always break. If landmarks are not visible, vessels should anchor when the water shoals to 26m.

Between Farafangana and the mouth of **Riviere Mananivo** (23° 13'S., 47° 44'E.), 25 miles SSW, the coast is backed by well-wooded country.

The few known dangers lie close offshore and vessels proceeding along the coast by day can see them at sufficient distance to enable them to be avoided.

Riviere Mananivo can be identified by the contrast between the thickly wooded country N, with the flatter coast, with few trees, S.

There is anchorage in 33m, sand, 3 miles off Riviere Mananivo, with the S fall of Colline Ankarana (23° 05'S., 47° 38'E.), a large flat-topped hill, bearing 313°; vessels wishing to work cargo must proceed closer to shore.

Mouillage de Vangaindrano (23° 20'S., 47° 43'E.) is the roadstead off the entrance of the Riviere Mananara.

Aspect.—A village, Benanorema, is situated on the N side of the entrance of the river; the village consists of two distinct groups of houses.

Two isolated buildings, clearly visible, stand slightly N of a tongue of sand at the entrance of the river. The town of Vangaindrano is situated about 5 miles up the Riviere Mananara.

Anchorage.—Mouillage de Vangaindrano is in depths 14 to 15m, 0.7 mile off the mouth of Riviere Mananara.

Between the mouth of Riviere Mananara and Riviere Isandra the high mountains of the interior gradually approach the coast.

10.37 Grande Mamelle (23° 28'S., 47° 11'E.) and La Dent, 9 miles S, are good marks in good weather.

Riviere Masianaka (23° 34'S., 47° 37'E.) flows into the sea 15 miles SSW of Riviere Mananara. Anchorage can be taken in a position about 2 miles S of the outlet and about 2.5 miles offshore. A coral reef fronts the mouth of this river.

Mahabo (23° 48'S., 47° 33'E.), is a village SSW of Riviere Masianaka. Anchorage can be taken offshore in 33m, in a position with a saddle-shaped summit, within the coast, bearing 255°.

Riviere Isandra enters the sea in position 24° 03'S, 47° 28'E. Southward of the mouth of the river, the inland range of mountains is closer to the coast, and one mountain has a conspicuous knob on its summit.

Mont Sakarivo and Mont Torotoro rise 17 miles SW of the mouth of Riviere Isandra; the foot of these mountains appears to form a "V", which closes as a vessel proceeds S.

Mont Fenoarivo, 3 miles NW of Mont Sakarivo, is conspicuous. Tete Mi-Pelee is a conspicuous hill 3 or 4 miles inland, E of Mont Sakarivo; its S slopes are wooded, but its N slopes are bare.

Caution.—A rock, with a depth of 1.8m, was reported to lie in position 24° 33'S, 47° 24'E; this position is doubtful. A shoal, with a depth of 19m, was reported to lie 13.5 miles E of the above rock.

10.38 Baie de Sainte-Luce (24° 46'S., 47° 12'E.) is bounded on its E side by a chain of islets and shoals, over which the sea breaks, and affords moderate shelter to small vessels. The town of Manafiafy (Sainte-Luce) stands on the shore near the S end of the bay.

Winds—Weather.—The bay is open to NE winds, but though sometimes strong, they do not raise a heavy sea; SE winds, on the contrary, in spite of the shelter afforded by the islets, cause a choppy sea.

Aspect.—An observer approaching Baie de Sainte-Luce from the NNE will, before reaching that area, note that several small peaks on Itaperina Peninsula appear like an island. Two small arid hills on the S side of Baie de Sainte-Luce will also appear as an island.

Anchorage.—Vessels drawing less than 6.1m can anchor with the summit of Ilot de Chartres bearing 100°, but should not proceed farther S because of a rock, with a depth of less than 1.8m, which lies 0.3 mile NNW of the summit of Ilot Babet. The holding ground is good.

Caution.—The principal islets, named in order from the N, are Ilot Souillac, Ilot aux Oiseaux, Ilot de Chartres, Ilot Babet, and Ilot aux Chevres, which has foul ground between it and the

S entrance point of the bay. These islets are low, flat, rocky, and scarcely distinguishable from the coast; the sea often washes completely over them.

Garland Rock lies 0.5 mile ENE of the N extremity of Ilot Souillac, but its position is doubtful. Two shoals, each with a depth of 4.6m, lie 0.3 mile NE and NW of the N extremity of Ilot Souillac.

Westward of the islets mentioned above are several shoals.

The inner part of the harbor, near the town, is shallow and encumbered by rocks.

Directions.—Because of the existence of several dangers in the approach, the exact positions of which are not known, vessels without local knowledge should approach the bay with the utmost caution.

A vessel approaching Baie de Sainte-Luce should steer for Morne Manombo (24° 42'S., 47° 11'E.), 221m high, which appears above the trees at the mouth of Riviere Manombo-Arivo or Manery, 4.5 miles N of Saint-Luce, bearing 270°, keeping a lookout for Garland Rock.

When the summit of Ilot Basbet, near which an isolated coconut palm tree stands, is in line with Ilot Souillac, a vessel should alter course SSW so as to pass about 0.2 mile W of Ilot Souillac, taking care to avoid the shoals NW and W of it, and steer for the middle of the gap between Ilot aux Chevres and the S entrance point of Baie de Saint-Luce, bearing 190°.

Vessels drawing less than 6.1m can anchor with the summit of Ilot de Chartres bearing 100°, but should not proceed farther S because a rock, 0.3 mile NNW of the summit of Ilot Babet. Mont Ambarabe is a conspicuous summit rising in position 24° 48'S, 47° 05'E.

Baie de Sainte-Luce to Faradofay

10.39 From Baie de Sainte-Luce to **Lohatanjona Evatra** (Pointe Evatra) (25° 00'S., 47° 05'E.), 14 miles SSW, the coast is foul for more than 2 miles offshore; breakers have been observed 0.7 mile SE of Ilot aux Chevres.

Helodrano Mananivo (Baie de Mananivo) is formed between a point 1 mile S of Manafiafy and Lohatanjona Tapera (Pointe Itapera), 8.7 miles SSW. Foul ground extends 1 mile SSW from the N entrance point and Roche Tsioumaro (24° 51'S., 47° 10'E.) lies 1.5 miles offshore, about 3.5 miles SSW of the same point. Between Lohatanjona Tapera and Lohatanjona Evatra (Pointe Evatra), 4.5 miles SSW, the coast recedes to form Anse d'Itaperina (Baie d'Itaperina); the N part of the bay is encumbered by islets and rocks. Lohatanjona Evatra is marked by several small, avid, reddish peaks, which are more pointed but not as high as those in the vicinity of Baie de Sainte-Luce.

Sommet Evatra (24° 58'S., 47° 06'E.), 173m high, Sommet Evatra Milieu and Sommet Evatra Sud are located 1.8, 1.3, and 0.7 mile N, respectively, of Lohatanjona Evatra; a light is situated on the peninsula close S of the summit of Sommet Evatra Sud.

Roche Itaperina (25° 00'S., 47° 06'E.) lies about 0.5 mile SSE of Lohatanjona Evatra. The sea always breaks heavily over this rock and the resulting spray has been seen at a distance of 6 miles.

Anchorage.—Anchorage protected from NE and E winds, may be taken on the W side of the peninsula formed N of

Lohatanjona Evatra, in 21m, sand, with the N slope of Sommet Evatra bearing 044° and the light bearing 085°. A vessel may anchor closer in with the light bearing 090° and Lohatanjona Evatra bearing about 135°, in depths from 14 to 15m, sand. This anchorage lies close off Anse d'Itaperina (Anse Itapere).

It has been found that during strong NE winds, a heavy swell, up to 3m high, has set into the anchorage.

Caution.—Besides the necessity of keeping N of the point of destination anywhere on this coast because of the SSW current, it is essential when approaching the coast to keep a constant lookout for sunken dangers, which can then generally be seen from a distance by the color of the water. The transparency of the sea is such that in ordinary conditions the bottom is clearly visible in depths from 10.1 to 11.9m.

10.40 Baie de Faradofay (Baie de Fort Dauphin)(Tolagnaro) (Tolanaro) is entered between Lohatanjona Evatra and Cap Antsirabe (25° 03'S., 47° 00'E.), 6.5 miles SW; the W shore of the bay is fringed by a sandy beach, fronted by some rocks. The shores of the bay are low, and there is a chain of lagoons connected with each other just within the coastline. The land rises quickly behind the lagoons and reaches a height of 529m in Pic Saint Louis. Cap Antsirabe is located at the S end of a rocky peninsula, 35m high; the E side of the peninsula is bordered by cliffs.

Faradofay (Fort Dauphin) (Tolagnaro) (Tolanaro) (25° 02'S., 47° 00'E.) ([World Port Index No. 47470](#)) is situated in the SW corner of Baie de Faradofay; the port consists of the town and an open roadstead. Anse Dauphine, which fronts to town, is the farthest S of the anchorages on the E coast of Madagascar. The current off Faradofay usually sets SSW at a velocity of 2 knots. Two shoals, with least depths of 8.2m and 7.9m, lie 0.6 and 0.4 mile NE, respectively, of Flacourt Light; an obstruction lies 0.4 mile N of the light. A dangerous wreck lies near the end of the pipeline extending N from Faradofay.

There are no berths alongside; cargo is worked from the anchorage. There is anchorage in a depth of 11 to 12m, sand, at the intersection of the range lines. Vessels are advised not to proceed SE of the 239.5° range line. This anchorage is at all times of the year precarious because of the swell and the squalls.

Caution.—A stranded wreck lies about 0.1 mile NNE of the anchorage point.

Vessels approaching Faradofay from the S must take care not to mistake Tanjona Ranavalona (Cap Ranavalona), a wooded bluff 84m high, lying 2.2 miles SSW of Cap Antsirabe, for the peninsula on which Faradofay stands, as in thick weather, a vessel might run into Fausse Baie de Galions.

Faradofay to Tanjon' i Vhimena

10.41 Between Cap Antsirabe and **Tanjon Andavaka** (Cap Andavaka) (25° 12'S., 46° 39'E.) the coast is rocky and broken. The transparency of the sea near the coast is such that, under ordinary conditions, the bottom is clearly seen in depths of 12.2m.

Fausse Baie des Galions lies between Cap Antsirabe and Tanjona Ranavalona, it is encumbered with coral, rocks, and shoals, which break, and is bordered by a sandy beach. A chapel stands on a hill which backs the head of the bay.

Pointe Ambero (25° 07'S., 46° 50'E.) and the point is fronted by foul ground 0.3 mile offshore. The black tower and white building of a factory stand near the coast, 1.7 miles W of the point.

Helodranon'I Ranofotsy (Baie de Ranofotsy) (25° 09'S., 46° 45'E.) is entered 4.5 miles WSW of Pointe Ambero. In the middle of the entrance, which is 0.6 mile wide, there is a rocky shoal with a depth of 6.1m; vessels should pass E of this danger as there is foul ground between it and the W entrance point. In the NW part of the bay, there is a black rock resembling the hull of a vessel.

Helodranon'I Ranofotsy affords anchorage to small vessels with local knowledge, on either side of the bay, in depths 7 to 11m, mud, interspersed with patches of rock; vessels making a long stay may find it better to anchor off the W side, as a depth of 7m will be found closer inshore than on the E side, but a cove, entered between two rocky points on the E side, is better during strong E winds. A vessel 65m in length, drawing 4.9m, has anchored with the N entrance point of the cove on the E side of the bay bearing 022°, distant 0.1 mile. Although swell and surf occur in the bay in bad weather, there is sheltered anchorage during winds from between the SE and SW.

Tanjon Andavaka, 6 miles WSW of Helodranon'I Ranofotsy, is a promontory which appears as an island as soon as a vessel is clear of Cap Antsirabe. Monte Andrahomanana rises to a height of 463m, about 1.7 miles of Tanjon Andavaka; this isolated peak is surmounted by three knolls of unequal elevation and is one of the best landmarks on this part of the coast. A shoal, with a depth of 9m, was reported to lie in a position 26.5 miles SSE of Tanjon Andavaka.

10.42 From Tanjon Andavaka to Riviere Manambovo, 52 miles WSW, the high land decreases in elevation, and the coast

is backed by a large wooded plain, which becomes more wooded the farther W a vessel transits. The only heights along this coast are some large white sandhills. The location of Riviere Manambovo is indicated by a wide depression with gentle slopes in the featureless and slightly elevated coast. The 10m curve extends 1.5 miles offshore N of the mouth of the river.

Betanty (Faux Cap) (25° 34'S., 45° 32'E.) is a rocky outcrop which is backed by some white sand dunes. The coastal reef extends 1 mile from the cape, and an isolated depth of 3.6m lies 2.5 miles offshore, about 5 miles SW of the reef.

Tanjon'i Vohimena (Cap Sainte-Marie) (25° 35'S., 45° 08'E.) is the S extremity of Madagascar; it is a high rocky promontory rising vertically from the sea. The land in the vicinity of the cape is high and can be seen from a great distance. The extremity of the cape consists of some blackish rocks projecting 1 mile from the cliffs, and terminating in an isolated pointed rock, only visible from the E. The land NW of the cape, from within 1 mile offshore, appears as a high sandy cliff, with a flat summit, and devoid of vegetation. A light is shown from the cape.

Caution.—A depth of 37m was reported, in 1979, to lie 29 miles ESE of Tanjon'I Vohimena.

A depth of 15m lies 42 miles SSE of Tanjon'I Vohimena and a depth of 30m was reported, 1974, to lie 37 miles W of the 15m depth.

A bank, with a depth of 501m, has been reported 92 miles SSE of Tanjon'I Vohimena.

Walters Shoals (33° 12'S., 43° 55'E.) has a least depth of 15m; these shoals have been seen to break.